DOI: 10.14260/jemds/2015/541

ORIGINAL ARTICLE

TO STUDY OF DISTRIBUTION EXTRA-PULMONARY TUBERCULOSIS PATIENTS ACCORDING TO SITES TREATED UNDER RNTCP IN KARAD TUBERCULOSIS UNIT

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HOW TO CITE THIS ARTICLE:
Anil Bhoi, Vandana Bhoi. "To Study of Distribution Extra-Pulmonary tuberculosis Patients according to Sites Treated under RNTCP in Karad Tuberculosis Unit". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 22, March 16; Page: 3752-3756, DOI: 10.14260/jemds/2015/541

ABSTRACT: BACKGROUND: The Revised National Tuberculosis Programme (RNTCP) in INDIA. **OBJECTIVES:** To study of distribution of extra-pulmonary tuberculosis patients according to sites treated under RNTCP in Karad Tuberculosis Unit. **MATERIAL & METHODS:** The present longitudinal study was carried out during January 2008 to June 2009 on patients registered at Karad TU cattering 9 PHCs, Sub District Hospital, Krishna Hospital & 6 DMCs with 3ICTCs. In total 806 patients were study subjects with prior permission of District Tuberculosis Officer (DTO). Patients were interviewed using semi structured questionnaires at their residence in defined time period i.e. at the start of treatment, after completion of IP. **RESULTS & OBSERVATIONS:** In this study there was higher proportion of males 390(82.1%) having pulmonary tuberculosis than females 230(69.5%) and higher proportion of females 101(30.5%) having extra pulmonary tuberculosis than males 85(17.9%) in this study. There was highly significant association between type of TB and gender. Out of 186 extra pulmonary tuberculosis patients maximum 83(42.8%) had lymphadenopathy while 31(16%) suffered from pleural effusion. 40(21.5%) had abdominal tuberculosis, 13(6.7%) had tuberculosis meningitis. **CONCLUSION:** The females were having higher proportion 101(30.5%) of extra pulmonary tuberculosis than males 85(17.9%) in this study. The lymph nodes 83(42.8%) was the commonest site for extra pulmonary tuberculosis in this present study.
KEYWORDS: RNTCP, TU, PHC, DMC, ICTC, IP, TB, EPTB.

INTRODUCTION: Tuberculosis is a chronic, common, specific infectious disease caused by Mycobacterium tuberculosis. Usually the organism affects the lung primarily resulting in pulmonary tuberculosis. However they can affect any organ or system in the body such as bones, joints, meninges, intestine, lymph nodes, kidney etc grouped under extra-pulmonary tuberculosis. Tuberculosis is not only a public health problem but also a social and economic problem.[1] More than 1,00,000 women are stigmatized and rejected by their families each year due to tuberculosis leading a large number of children to become orphans.[2]

TB takes disproportionately larger toll among young females with more than 50% of female cases occurring before age of 34 years. TB kills more women in reproductive age group than all causes of maternal mortality combined together. Nearly 1/3 of female infertility in India is caused by tubrerculosis.[3] Men have to deal with the stigma at their workplaces and in the community and women are ostracized in household and community.[4] Extra pulmonary tuberculosis has become more common since the advent of human immunodeficiency virus (HIV) infection. Extrapulmonary Tuberculosis and HIV Infection Extra pulmonary involvement can be seen in more than 50 percent of patients with concurrent AIDS and tuberculosis.[5,6,7]

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AIMS AND OBJECTIVE:

1) To study the type of tuberculosis wise distribution of patients according to gender.
2) To study of distribution of extra-pulmonary tuberculosis patients according to sites treated under RNTCP.

MATERIAL & METHODS:

1) **Study Cohort:** All patients registered in Karad Tuberculosis Unit selected from January 2008 to June 2009, 806 patients formed the study cohort. Hence no Sampling procedure was used. Under Karad Tuberculosis Unit there are 9PHCs, Sub District Hospital and Krishna Hospital, 6 Designated Microscopy Centres (DMC),3 Integrated Counselling and Testing Centres (ICTC). Before commencement of study permission of District Tuberculosis Officer (DTO) was taken.
2) **Study Period:** January 2008 to June 2009.Data collection from October 2008 to April 2010 Analysis done May 2010 using appropriate techniques.
3) **Type of Study:** Longitudinal (Prospective) Study.
4) **Study Plan:** Data Collection: Patients were interviewed using pre-tested semi structured questionnaires at their residence after treatment initiation, after completion of intensive phase (IP).

Statistical Methods: (Data Analysis) Data was summarized in number and in percentage. Appropriate techniques used. Chi-square test was applied to assess statistical significance between variables.

RESULTS & OBSERVATIONS:

Type of TB	Gender		
	Male	Female	Total
Pulmonary	390(82.1%)	230(69.5%)	620(76.9%)
Extra-pulmonary	85(17.9%)	101(30.5%)	186(23.1%)
Total	475(100%)	331(100%)	806(100%)

Table 1: Type of TB wise distribution of patients according to gender

$\chi 2 = 17.498$, df = 1, $p < 0.001$

In this study there was higher proportion of males 390 (82.1%) having pulmonary tuberculosis than females 230 (69.5%) and higher proportion of females 101 (30.5%) having extra pulmonary tuberculosis than males 85 (17.9%) in this study. There was highly significant association between type of TB and gender.

Extra-pulmonary sites	Frequency	Percent (%)
Lymph node	83	42.8%
Abdomen	40	21.5%
Pleural Effusion	31	16.0%

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Meninges	13	6.7%
Spine	11	5.7%
Knee Joint	5	2.6%
Genital	3	1.5%
Total	**186**	**100%**

Table 2: Distribution of Extra-pulmonary tuberculosis patients according to sites

It was observed that lymph nodes were the most common extrapulmonary sites involved.

DISCUSSION: In this study there was higher proportion of males 390 (82.1%) having pulmonary tuberculosis than females 230 (69.5%) and higher proportion of females 101(30.5%) having extra pulmonary tuberculosis than males 85 (17.9%) in this study. There was highly significant association between type of TB and gender.

Extra pulmonary tuberculosis disease prevalence is higher in females than in males. Similarly finding is seen found in study conducted by V. K. Arora et al[5] that is higher number of females 1615(57%) than males 1234(43%) constituting a significantly different male: female ratio of 1:3.

In our study 186(23%) out of 806 cases have been extra pulmonary cases and that lymph nodes to be the commonest extra pulmonary site involved in 83(42.8%) patients. It was observed that lymph nodes were the most common extra pulmonary sites involved in this study.

Extra pulmonary tuberculosis is also an important clinical problem. Studies show that extra pulmonary TB (EPTB) comprises about 10% to 15% & of all new TB cases in our country. Among them 75% have lymph node or pleural TB.

In India and other developing countries lymph node tuberculosis continues to be the most common form of extra pulmonary tuberculosis. Tubercular lymphadenitis is considered to be the local manifestation of a systemic disease. Peripheral lymph nodes are most of often affected and cervical involvement is the most common. After the primary infection, the infection spreads via lymphatics to the draining cervical lymph nodes. In our study substantial proportion of patients had cervical lymphadenopathy. The present study is good evidence to support this fact. The pleural space is also common site.

Sub pleural effusion usually presents as an acute illness and most of the patients due to its accompanying symptoms like chest pain and dyspnoea avail health care facility earlier. The abdominal tuberculosis is also presenting ascommon disease. In developing world tuberculous meningitis is still a disease of childhood and present study also supports this fact. Female genital tuberculosis is secondary to tuberculosis infection elsewhere in the body and is an important cause of infertility.

The present study findings are more or less similar to findings of study conducted by V. K. Arora et al[8]has found that lymph node involvement is 54%.

Following are some finding-Lymphadenitis is the most commonly occurring form of extra pulmonary tuberculosis. Cervical lymphadenopathy is most common, but inguinal, axillary, mesenteric, mediastinal, and intramammary involvement all have been described.[9,10,11]

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In the United States, pleural tuberculosis accounts for about 5 percent of all tuberculosis cases.[12] Tuberculous effusions can follow early post primary, chronic pulmonary, or miliary tuberculosis. Pleural tuberculosis often is an acute illness with cough, pleuritic chest pain, fever, or dyspnoea.

Bone and joint tuberculosis may account for up to 35 percent of cases of extra pulmonary tuberculosis. Skeletal tuberculosis most often involves the spine, followed by tuberculous arthritis in weight-bearing joints and extra spinal tuberculous osteomyelitis.[13,14] Spinal tuberculosis (Pott's disease) most commonly involves the thoracic spine.

Central nervous system tuberculosis includes tuberculous meningitis (the most common presentation), intracranial tuberculomas, and spinal tuberculous arachnoiditis. Meningitis results from intense inflammation following rupture of a sub ependymal tubercle into the subarachnoid space.[15]

Abdominal tuberculosis may involve the gastrointestinal tract, peritoneum, mesenteric lymph nodes, or genito- urinary tract. Other organs (e.g., liver, spleen, adrenal glands) usually are affected as a consequence of miliary tuberculosis.

Gastrointestinal Tuberculosis-Tuberculous enteritis can result from swallowing of infected sputum, ingestion of contaminated food, haematogenous spread. [16]

Genitourinary-Renal disease may be the result of direct infection of the kidney and lower urinary tract or may present as secondary amyloidosis. Patients present with dysuria, haematuria, or flank pain. More than 90 percent of asymptomatic patients have sterile pyuria with or without microscopic hematuria.[17,18]

CONCLUSION: It was observed that out of 806 cases, 186(23.07%) had extra pulmonary tuberculosis. Out of 186 extra pulmonary tuberculosis patients maximum 83(42.8%) had lymphadenopathy while 31(16%) suffered from pleural effusion. 40(21.5%) had abdominal tuberculosis, 13(6.7%) had tuberculosis meningitis. Thus lymph nodes 83(42.8%) was the commonest site for extra pulmonary tuberculosis in this present study.

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FINANCIAL OR OTHER COMPETING INTERESTS: None

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Date of Submission: 19/02/2015.
Date of Peer Review: 20/02/2015.
Date of Acceptance: 04/03/2015.
Date of Publishing: 13/03/2015.